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December 29, 1995

Regional Administrator
USEPA Region VII
726 Minnesota Ave.
Kansas City, KS 66101

ATTN: Mr. Bob Stewart

RE: Quarterly Progress Report (October - December 1995), HSWA Corrective Action Program, Safety-Kleen Corp. Branch Service Center, Wichita, Kansas (KSD000809723)

Dear Mr. Stewart:

Safety-Kleen Corp. (S-K) is submitting this quarterly progress report to comply with the Hazardous and Solid Waste Amendments (HSWA) Section of the Facility Operating Permit (Part II, Section 4). This report summarizes the corrective action activities performed at the Wichita Service Center between October and December, 1995. A brief summary of pertinent partial facility closure and corrective action events is included to provide background information for this progress report.

Summary of Pertinent Site History

S-K has operated a branch service center at 1311 South Anna Street in Wichita, Kansas, since 1975. S-K upgraded the Wichita facility with a new aboveground storage tank farm and new return/fill station in 1990 and 1991. Concurrently, S-K worked with KDHE to close the inactive hazardous waste management units (HWMUs) at the facility.

S-K has completed closure of the inactive HWMUs (an underground storage tank (UST) and an inactive return/fill station). In January 1992, S-K submitted a revised Risk Assessment to USEPA and KDHE to establish clean-up objectives for the site. The two-year closure period ended on June 10, 1993. The results of the partial facility closure activities were summarized in the Closure Certification Report dated August 9, 1993.

Since the end of the partial facility closure period, S-K has continued the ground-water assessment and remediation activities under corrective action. The results of all additional assessment and remediation activities conducted at the facility have been summarized in subsequent quarterly progress reports which have been submitted to USEPA - Region VII and the Kansas Department of Health and Environment (KDHE).

On January 20, 1994, S-K met with USEPA - Region VII and KDHE to discuss future remediation and monitoring activities and mutually agreeable cleanup objectives. During the meeting, S-K outlined a ground-water remediation program for the Wichita facility using in-situ air sparging in conjunction with the currently operating soil vapor extraction system (SVES). USEPA and KDHE verbally concurred with the proposed remediation program and requested

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that S-K submit a workplan detailing the installation, operation, and monitoring activities of the program. A workplan describing the air-sparging (AS) program was submitted to USEPA and KDHE in the March 1994 quarterly progress report. The March 1994 report also included a workplan for terminating the AS and SVES remediation programs at the facility.

In August 1994, S-K installed an in-situ AS system in accordance with the March 1994 workplan. A start-up monitoring program was conducted between July 28, and August 4, 1994, to develop a baseline for evaluating the effectiveness of the in-situ AS system.

The AS has been operated continuously in conjunction with the SVES since September 1994, with the exception of short periods of shut down for maintenance. In accordance with the workplan, S-K has monitored the AS/SVES systems regularly since installation and startup. The monitoring results have been reported to USEPA and KDHE in previous quarterly reports.

In addition to monitoring the AS/SVES systems, S-K has continued to monitor the offsite and onsite ground-water quality at the facility. The ground-water quality results have been reported to USEPA and KDHE in previous quarterly progress reports. The ground-water quality has shown consistent improvement since the in-situ AS/SVES remediation efforts began.

In May and June 1995, USEPA contacted S-K to discuss future activities at the Wichita facility and the need for an RFI. USEPA stated at that time that an RFI did not appear to be necessary based on the assessment and remediation results generated for the site. USEPA requested that S-K provide a summary of the closure, assessment, monitoring, and remediation activities performed at the site. USEPA requested that S-K clarify the physical correlation between the areas involved in closure and remediation activities and the locations of the new management units at the facility. Additionally, USEPA requested that S-K propose a phased approach for concluding the monitoring/remediation program at the facility.

In the June 28, 1995, quarterly progress report, S-K provided USEPA and KDHE with a summary of the closure, assessment, monitoring, and remediation activities and results completed at the site. The summary included references for the reports in which the data were originally presented to the agencies as well as summary tables and figures showing the locations and results of the assessment, monitoring, and remediation activities in relationship to the new management units at the site. S-K also presented a workplan to conclude the monitoring/remediation program.

Work Completed During Reporting Period

1. S-K conducted ground-water monitoring during the week of December 18, 1995. Figure A-1 (Attachment A) shows the monitoring well network. During the quarterly monitoring event S-K conducted the following activities:

- a. Measured fluid levels using a clean electronic water level measuring device. All parts of the water level probe and cable which came into contact with either the ground-water or well casing were decontaminated using a detergent solution and rinsed with distilled water prior to measuring water levels in each well.
- b. Prepared five onsite monitoring wells (wells A-1 through A-5) and three offsite monitoring wells (wells A-6 through A-8) for sample collection. A minimum of three well casing volumes were removed from each monitoring well using a decontaminated PVC bailer and dedicated polyethylene rope. Field measurements of pH, temperature, and specific conductance were taken (as necessary) during preparation of the monitoring wells to insure collection of representative ground-water samples.
- c. Collected ground-water samples from all eight monitoring wells (wells A-1 through A-8) using a decontaminated stainless steel bailer and dedicated polyethylene rope. The samples were transferred directly into appropriately preserved sampling containers provided by the laboratory. The samples were immediately labeled and placed on ice in an opaque cooler for transport to the laboratory.
- d. Field blank and equipment blank samples were submitted to the laboratory for QA/QC. The ground-water samples and blanks were submitted for analysis of total petroleum hydrocarbons (TPH) as mineral spirits (modified EPA method 8015) and VOCs (EPA method 8240).

The ground-water monitoring results will be reported to USEPA and KDHE in the next quarterly report (due on or before March 31, 1996).

2. S-K has operated an in-situ AS system continuously at the site since September 1994, except for periods when the system was shut down for maintenance or repair. S-K conducted the following quarterly maintenance during the reporting period:
 - a. System operating parameters were monitored on a regular basis throughout the quarter. Monitoring records for this quarter are presented in Attachment B. The operation data recorded this quarter indicate steady-state operation of the AS system, except for brief shut-down periods associated with the system on-off cycling (off 7 a.m. to 11 a.m.) program.
 - b. During the June 1995 sampling event, S-K installed a system timer to allow the AS system to be operated at regular intervals. Initially, the AS system timer was set to operate during a 20-hour cycle within a 24 hour period. The timer was operated at this setting between the week of June 25, 1995 and the week of September 10, 1995. Since September 10, 1995, the timer has cycled the AS system on for 44 hours and then off for four hours. This cycle was repeated six days out of every week. Due to the way that the timer works, the system operates on the seventh day of every week.

- c. In December 1995, all parts of the system were inspected for signs of wear. No problems were noted pertaining to the continued operation of the in-situ AS system.
3. A full-scale SVES has operated continuously at the site since October 27, 1991, with the exception of periodic shutdowns for maintenance and performance testing. S-K will continue to operate the SVES in conjunction with the AS system to assist in remediation of ground-water quality and for control of soil gases which may be influenced by the AS system.
 - a. S-K monitors the operation of the SVES on a regular basis. A copy of the operating records for this quarter are presented in Attachment C. The operations data for this reporting period indicate continued steady-state operation of the SVES.
 - b. S-K performed quarterly maintenance on the existing SVES in December 1995. Maintenance consisted of draining the water knock-out drum and lubricating the vacuum pump. All parts were inspected for signs of deterioration. No problems were noted.
 - c. S-K monitored the total organic vapor (TOV) emissions periodically through the quarter. Additionally, S-K collected a SVES emission sample during the week of December 18, 1995. The SVES emissions sample was submitted to R. V. Fitzsimmons, Inc. (West Chicago, Illinois) for analysis for TPH as mineral spirits and VOCs (EPA Method 8240). The results of the December 1995 emissions monitoring will be reported to USEPA and KDHE in the next quarterly report (on or before March 31, 1996).

Summary of Findings

1. Limited ground-water impacts were identified during the December 1993 offsite/down-gradient assessment. To mitigate these ground-water impacts, S-K implemented a ground-water remediation program in August and September 1994 using an in-situ AS system. The results of the baseline and subsequent monitoring are summarized below. Ground-water quality data through August 1995 were summarized in the previous quarterly report (dated September 27, 1995).
2. Ground-water quality samples were submitted prior to (June 1994) and following startup (August 1994) of the AS system to commence the performance monitoring program. The ground-water quality results for the June and August 1994 monitoring events were consistent with previous ground-water quality documented at the site and can be summarized as follows:

- a. No measurable product thickness was detected in the monitoring wells during either the June 1994 or August 1994 fluid level monitoring events.
 - b. Limited ground-water quality impacts were detected during the June and August 1994 monitoring events in samples from four down-gradient monitoring wells (onsite wells A-2, A-3, and A-4 and offsite well A-8). VOCs detected during June and August 1994 were below the respective Kansas Action Levels (KALs) and USEPA Maximum contamination levels (MCLs).
 - i. Mineral spirits was detected in samples from down-gradient wells A-2, A-3 and/or A-4 at concentrations ranging from 0.22 mg/L to 3.2 mg/L during the June and August 1994 sampling events.
 - ii. Three VOCs (ethylbenzene, total xylenes, and chlorobenzene) were detected at low concentrations in samples collected from monitoring wells A-2, A-3, A-4, and/or A-8 during the June and August 1994 sampling events.
 - iii. Total metals (cadmium, chromium, and lead) were not detected above laboratory detection limits in any of the samples collected during the June and August 1994 events with the exception of Well A-1.
 - iv. Total chromium was detected in the sample from up-gradient well A-1 during both the June and August 1994 monitoring events at concentrations of 0.013 mg/L and 0.05 mg/L, respectively. Total chromium has historically been detected in samples collected from this up-gradient well.
 - c. As discussed in the September 29, 1994, quarterly progress report, S-K discontinued monitoring ground-water quality for total metals (cadmium, chromium, and lead) during all subsequent sampling events. Historical data confirms total metals are not representative of facility-related ground-water quality impacts at this site.
3. By the end of June 1995, the in-situ AS system has been operating at the site for approximately 12 months. Analytical results from the June 1995 sampling event indicated a continuing decrease in the concentrations of constituents that had been detected during June and August 1994. The results of the June 1995 monitoring event are summarized below.
- a. No measurable hydrocarbon thickness or hydrocarbon sheen was detected in the ground water during the June 1995 sampling event.
 - b. The limited constituent concentrations, detected previously at the site, decreased since the beginning of in-situ AS ground-water remediation. The June 1995 ground-water quality results can be summarized as follows:

- i. With the exception of wells A-2 and A-4, no VOCs were detected in the samples from the onsite and offsite monitoring wells during the June 1995 sampling event.
 - ii. Low concentrations of two VOCs (chlorobenzene, 0.008 mg/L, and total xylenes, 0.013 mg/L) were detected in samples collected from wells A-2 and/or A-4. The detected concentrations are well below the USEPA-MCLs for these constituents (0.100 mg/L and 10.0 mg/L, respectively);
 - iii. TPH as mineral spirits were detected in the ground-water samples from wells A-2 and A-4 at low concentrations of 0.24 mg/L and 0.19 mg/L, respectively.
 - c. The AS system was cycled on and off for approximately 1.5 weeks prior to ground-water sampling. Additionally, the AS system was shut down for 24 to 36 hours prior to sampling for the timer installation and well preparation. The detection of mineral spirits at wells A-2 and A-4 may reflect the change in sparging due to cycling of the system.
4. By the end of August 1995, the in-situ AS system had been operating at the site for approximately 13 months. Analytical results from the August 1995 sampling event indicate minor spikes of constituents, which may be due to the cycling of the AS system. The results of the August 1995 monitoring event are summarized below.
- a. No measurable hydrocarbon thickness or hydrocarbon sheen was detected in the ground water during the August 1995 sampling event.
 - b. The limited constituent concentrations, detected previously at the site, have been reduced considerably since the beginning of in-situ AS ground-water remediation. However, as expected when the remediation system was shut down or cycled, minor constituent concentration spikes were detected in some of the samples collected in August 1995. The August 1995 ground-water quality can be summarized as follows:
 - i. With the exception of Well A-4, no VOCs were detected in the samples from the onsite and offsite monitoring wells during the August 1995 sampling event.
 - ii. Low concentrations of two VOCs (total xylenes, 0.026 mg/L, and 1,4-dichlorobenzene, 0.006 mg/L) were detected in the sample from Well A-4 at levels well below USEPA maximum contaminant levels (MCLs) for drinking water. Low levels of these constituents had been detected in the past at this well prior to startup of the AS system.
 - iii. TPH as mineral spirits was detected at low concentrations in the ground-water samples from two onsite wells (Well A-2, 0.54 mg/L, and Well A-4, 0.62 mg/L). Additionally, TPH as mineral spirits was detected at

levels at or near the laboratory detection limit (0.10 mg/L) in wells A-3, A-5, A-6, and A-8 (0.10 to 0.13 mg/L).

- iv. The levels of mineral spirits detected in all of the samples were very low and may represent minor spikes associated with AS system cycling during the final stages of remediation. For comparison, the USEPA-Region 7 approved cleanup level for mineral spirits in ground water at two other S-K sites is 1.0 mg/L.
 - c. Between June 1995 and September 1995, the AS system was set to run for 20 hours during every 24-hour cycle. In response to the detection of minor mineral spirits spikes in ground water above or near the detection limit, S-K modified the system cycle. During the week of September 12, 1995, S-K set the AS system to run for 44 hours in a 48 hour cycle over a six day period. Due to the way the timer operates, the AS system will also run continuously for the seventh day of every week.
- 5. Fluid level data collected through August 1995 were summarized in the September 1995 quarterly report. Historically, the ground-water flow direction across the site has been to the southeast. The hydraulic gradient across the site has historically been approximately 0.002 ft/ft. The December 1995 water level data will be reported in the next quarterly report (due on or before March 31, 1996).
 - 6. S-K has monitored operation of the AS system on a regular basis since start-up in July 1994. System monitoring records are presented in Attachment B. The AS system has been operating with an air-injection pressure of approximately 7 psig and a flowrate of approximately 49 scfm.
 - 7. S-K continued to monitor the SVES on a regular basis throughout this quarterly period. The SVES system was operated at a vacuum of approximately 14 inches of water and an average total air flowrate of 180 scfm this quarter. Additionally, S-K periodically monitors the SVES stack emissions quality. Emissions quality is monitored regularly through field measurements of TOV emissions using a photo-ionization detector (PID). Quarterly SVES monitoring includes collection of an emissions sample for laboratory analyses. The SVES emissions monitoring results collected through August 1995 can be summarized as follows:
 - a. The analytical stack emissions results indicate that the SVES has adequately controlled the migration of soil gas, which may be generated through operation of the AS system.
 - b. The SVES emissions results indicate that TPH as mineral spirits or VOCs have not been detected above laboratory detection limits since August 1994, including the August 1995 monitoring event. A field TOV measurement of 2 ppm was detected during the August 1995 sampling event.

- c. Decreasing TOV and organic constituent concentrations in the SVES emissions over the last four quarters reflect the improved ground-water quality and provide evidence that subsurface remediation is at or near completion at this site. S-K will continue to monitor and report the SVES emissions until termination of the remediation program.

Summaries of Problems

1. No known problems exist in conjunction with the continuation of additional assessment and/or remediation (i.e., AS/SVES) under the corrective action program at this facility.
2. The closure period ended on June 10, 1993; however, the risk assessment which establishes proposed clean-up objectives for ground water is still under review by KDHE and USEPA. Mutually agreeable clean-up objectives would be beneficial in evaluating the terms of continued remediation activities under the facility corrective action program.

Projected Work for Next Reporting Period

1. S-K believes that soil and ground-water quality have been remediated to levels well below acceptable clean-up objectives. However, S-K intends to continue the ongoing remediation/monitoring activities under the corrective action provisions of the facility operating permit, until verification sampling indicates facility-related impacts are either no longer detectable or below mutually agreeable clean-up objectives. A summary of the remediation/monitoring activities projected for next quarter is presented below.
2. S-K intends to continue operation of the in-situ AS system until SVES emissions and ground-water quality data indicate that no further remediation effort is necessary. S-K will continue to monitor the AS and SVES systems on a regular basis in accordance with the workplan submitted to USEPA and KDHE in the March 1994 and June 1995 quarterly reports. The following monitoring activities will continue at the S-K Wichita facility (as necessary):
 - a. Regular monitoring of the AS and SVES system parameters (differential pressure and vacuums, injection pressure, flowrate, and temperature).
 - b. Monitor dissolved oxygen concentrations in ground-water on a quarterly basis, or as necessary.
 - c. Adjust system operating parameters, as necessary, to maintain optimal performance throughout the remediation period.

- d. The SVES emissions will also be monitored on a regular basis for TOV concentrations using a PID. If TOV concentrations indicate that analyses are warranted (i.e., TOV above background), SVES emissions samples will be collected and analyzed for VOCs and TPH as mineral spirits.
 - e. S-K will continue quarterly monitoring of ground-water levels and ground-water quality at the existing monitoring wells. Samples will be collected from the up-gradient and down-gradient monitoring wells and analyzed for VOCs and TPH as mineral spirits. The sampling procedures will be consistent with the sampling procedures used during the December 1995 sampling event.
3. When ground-water quality results indicate that sufficient remediation by air sparging has been accomplished, the remediation systems will be shutdown. Ground-water quality and unsaturated soil verification sampling will be conducted during the quarter following system shutdown. A plan to verify that subsurface remediation has been completed to the extent practicable and necessary was presented in the quarterly report for the period ending June 1995.
4. S-K will continue to report the results of all remediation and monitoring activities to USEPA and KDHE on a quarterly basis pursuant to corrective action provisions of the facility Part B permit. S-K will submit the next quarterly progress report on or before March 31, 1996.

S-K appreciates the cooperation and assistance which USEPA and KDHE have provided on this project. Pending the results of the December 1995 monitoring event, S-K may wish to meet with USEPA during the next quarter to discuss future site activities. I will be contacting you during the next quarter to discuss the need for a meeting and work out a schedule. If you have any questions or comments, please feel free to contact Jack Bedessem (TriHydro Corporation) at (307) 745-7474 or me at (713) 280-9754.

Sincerely,
SAFETY-KLEEN CORP.


for Joe Herrin, CHMM, P.G.
Senior Project Manager - Remediation

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Attachments

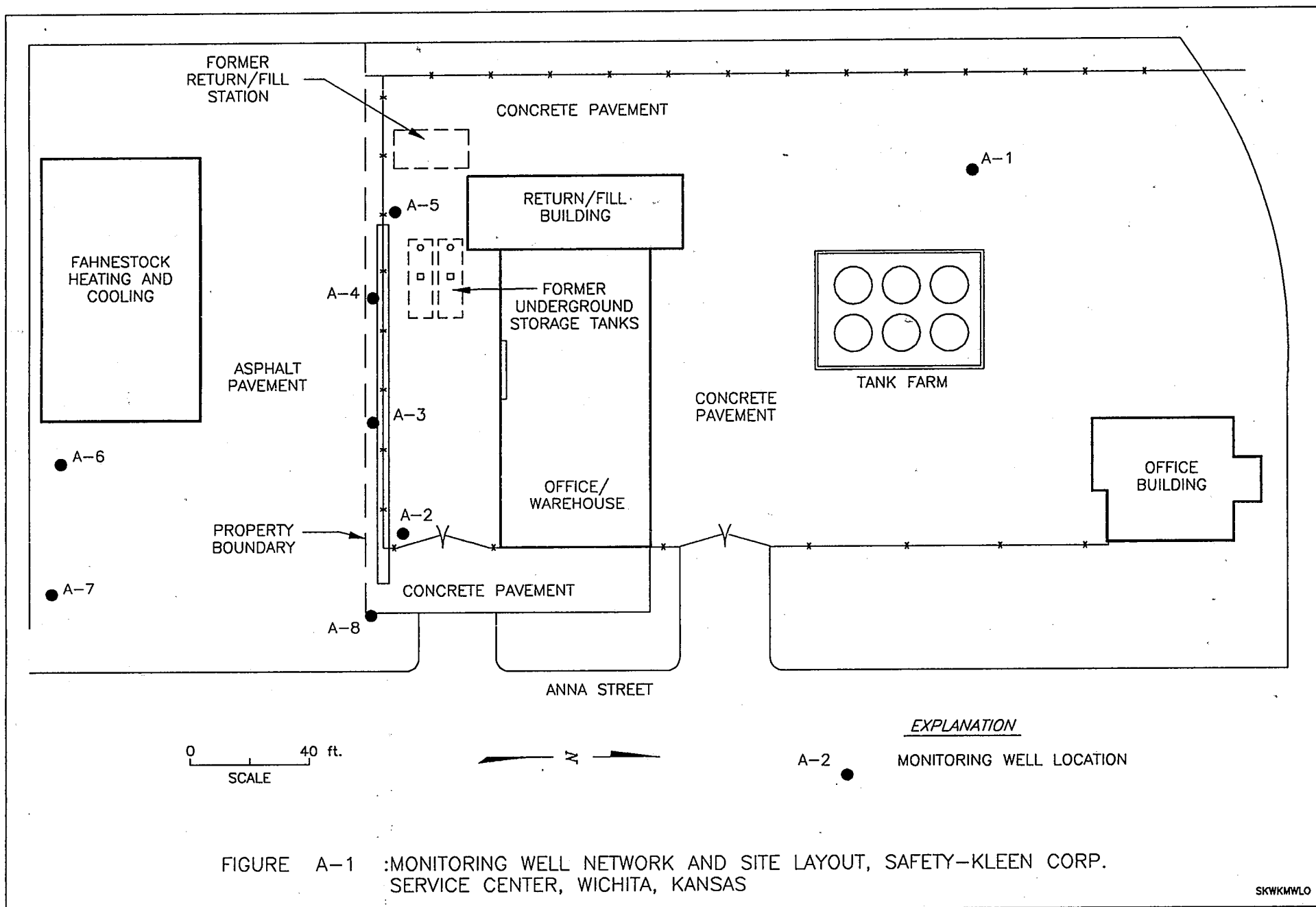
cc: Wes Bartley (USEPA - Region VII)
Curtis Leslie (KDHE)
Gary Long (S-K, Elgin)
Karen Loskosky (S-K, Wichita)
TriHydro Corporation
S-K Branch EHS, 999 File No. 1780

ATTACHMENT A

SITE LAYOUT FIGURE

CORRECTIVE ACTION

QUARTERLY PROGRESS REPORT OCTOBER - DECEMBER 1995
SAFETY-KLEEN CORP. SERVICE CENTER
WICHITA, KANSAS



ATTACHMENT B

SUMMARY OF MONITORING RECORDS
OCTOBER - DECEMBER 1995
AIR SPARGING SYSTEM

CORRECTIVE ACTION
QUARTERLY PROGRESS REPORT OCTOBER - DECEMBER 1995
SAFETY-KLEEN CORP. SERVICE CENTER
WICHITA, KANSAS

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Safety Kleen/Wichita

Daily Monitoring Record - Air Sparging System

Date	Time	Temperature (°F)	Outlet Pressure (psi)	Flow Meter ΔP (in H ₂ O)	Pressure AS-3 (psi)	Pressure AS-2 (psi)	Pressure AS-1 (psi)
5-26-95	1230 PM	210	2.7 ✓	7.5	N/A	10	9
5-27-95	110 PM	220	2.7	7.5	N/A	10	9
5-28-95	1205 PM	220	2.5	7.5	N/A	10	9
5-29-95	1050 AM	220	2.7	7.5	N/A	10	9
5-30-95	130 PM	220	2.5	7.5	N/A	10	9
5-31-95	130 PM	230	2.5	7.5	N/A	10	10
6-1-95	225 PM	250	2.5	8	N/A	10	10
6-2-95	130 PM	255	2.4	8	N/A	10	10
6-3-95	205 AM	230	2.1	8	N/A	10	10
6-4-95	115 PM	230	2.4	8	N/A	10	10
6-5-95	130 PM	220	2.5	8	N/A	10	10
6-6-95	125 PM	250	2.5	8	N/A	10	10
6-7-95	155 PM	260	2.5	0	N/A	10	10
6-8-95					Shut Down		
6-9-95					Shut Down		
6-10-95	910 PM	210	2.8	0	N/A	10	10
6-11-95	1055 AM	220	2.9	0	N/A	10	10
6-12-95	220 PM	240	2.8	0	N/A	10	10
6-13-95	140 PM	230	2.5	0	N/A	10	10
6-14-95	125 PM	230	3	0	N/A	9	7
6-15-95	1330 PM	225	3	0	N/A	9	8
6-16-95	1:32 PM	220	3.4	0	N/A	7	6
6-17-95	1:49 PM	235	3.2	0	N/A	8	6
6-18-95	11:35 AM	230	3	0	N/A	8	6
6-19-95	1:26 PM	240	2.8	0	N/A	9	8
6-20-95	125 PM	245	2.8	0	N/A	9	8
6-21-95	126 PM				Shut down		
6-22-95	2:00 PM				Shut down		
6-23-95	12:00 PM				Shut down		

Lightning

timer
installation

52-02

Safety Kleen/Wichita

Daily Monitoring Record - Air Sparging System

Date	Time	Temperature (°F)	Outlet Pressure (psi)	Flow Meter ΔP (in H ₂ O)	Pressure AS-3 (psi)	Pressure AS-2 (psi)	Pressure AS-1 (psi)
6-24-95	1015 AM		Shut down				
6-25-95	1155 AM	210	2.4	5	N/A	8	7.5
6-26-95	125 PM	220	2.4	7	N/A	9	8
6-27-95	125 PM	240	2.4	7	N/A	9	8
6-28-95	130 PM	240	2.4	6	N/A	9	8
6-29-95	135 PM	230	2.3	7	N/A	10	9
6-30-95	140 PM	235	2.3	7	N/A	10	9
7-1-95	1005 AM		Shut Down				
7-2-95	320 PM	220	2.3	6	N/A	10	9
7-3-95	405 PM	225	2.5	6	N/A	9	8
7-4-95	1145 AM	230	2.5	6	N/A	9	8
7-5-95	125 PM	230	2.6	6	N/A	8.5	8
7-6-95	114 PM	245	2.6	6	N/A	8.5	8
7-7-95	120 PM	240	2.7	6	N/A	8.5	8
7-8-95	1150 AM	240	2.7	5.5	N/A	8.5	8
7-9-95	155 PM	245	2.7	6	N/A	8.5	8
7-10-95	125 PM	250	2.5	6	N/A	9	8
7-11-95	120 PM	260	2.5	6	N/A	9	8
7-12-95	405 PM	260	2.7	6	N/A	9	8
7-13-95	415 PM	240	2.9	0	N/A	7.5	7
7-14-95	235 PM	235	2.8	0	N/A	7.5	7
7-15-95	240 PM	240	2.8	0	N/A	7.5	7
7-16-95	140 PM						
7-17-95	125 PM		Re Started System				
7-18-95	115 PM	230	3	0	N/A	7.5	7
7-19-95	125 PM	230	3	0	N/A	7.9	7
7-20-95	115 PM	225	3	0	N/A	6.5	6
7-21-95	125 PM	230	3	0	N/A	7.5	7
7-22-95	915 AM	218	3	0	N/A	7	6.5
7-23-95	1155 AM	230	3	0	N/A	7	7

Shut Down

52-02

Safety Kleen/Wichita

Daily Monitoring Record - Air Sparging System

Date	Time	Temperature (°F)	Outlet Pressure (psi)	Flow Meter ΔP (in H ₂ O)	Pressure AS-3 (psi)	Pressure AS-2 (psi)	Pressure AS-1 (psi)
7-24-95	125PM	230	2.9	0	N/A	7	7
7-25-95	1205PM	235	3	0	N/A	7	7
7-26-95	125PM	230	3	0	N/A	7	6.5
7-27-95	115PM	240	2.8	0	N/A	7	6.5
7-28-95	120PM	240	3	0	N/A	7	6.5
7-29-95	1245PM	240	3	0	N/A	7	6.5
7-30-95	1235PM	230	3	0	N/A	7	6.5
7-31-95	120PM	230	3	0	N/A	7	6.5
8-1-95	115PM	200	4.3	0	N/A	7	6
8-2-95	115PM	215	2.9	0	N/A	6.2	6
8-3-95	120PM	215	2.9	0	N/A	6	5.5
8-4-95	115PM	225	3	0	N/A	6.5	6
8-5-95	125PM	205	3	0	N/A	6	5.5
8-6-95	1235PM	220	3.2	0	N/A	6.5	6
8-7-95	115PM	225	3.7	0	N/A	6	6
8-8-95	120PM	230	3.2	0	N/A	6	6
8-9-95	115PM	230	3.2	0	N/A	6	6
8-10-95	125PM	225	3.2	0	N/A	6	5.5
8-11-95	115PM	225	3.2	0	N/A	6	6
8-12-95	76 AM		Shut down				
8-13-95	655PM	230	2.7	4	N/A	7	6
8-14-95	175PM	240	2.7	4	N/A	7	6.5
8-15-95	120PM		Shut down				
8-16-95	125PM	230	2.9	3.9	N/A	6.5	6
8-17-95	115PM	230	3	3.5	N/A	6	6
8-18-95	120PM	230	3.7	3.5	N/A	6	6
8-19-95	440PM	230	3.1	3.5	N/A	6	6
8-20-95	145PM	235	3.1	3.5	N/A	6.5	6
8-21-95	125PM	230	3.1	3.5	N/A	6.5	6
8-22-95	125PM	230	3	3.5	N/A	6.5	6
8-23-95	125PM	230	3	3.5	N/A	6.5	6
8-24-95	120PM	230	3	3.5	N/A	6.5	6
8-25-95	115PM	230	3	3.5	N/A	6.5	6
8-26-95	1175AM	230	3	3.5	N/A	7	6
8-27-95	115PM	230	3	3.5	N/A	7	6

J-02

Daily Monitoring Record - Air Sparging System

Safety Kleen/Wichita

Date	Time	Temperature (°F)	Outlet Pressure (psi)	Flow Meter ΔP (in H ₂ O)	Pressure AS-3 (psi)	Pressure AS-2 (psi)	Pressure AS-1 (psi)
102395	130pm	140	5	0	N/A	3	1.5
102495	125pm	160	5	0		3	1.5
102595	125pm	170	5	0		3	1.5
102695	125pm	165	4.8	0		2.8	1.5
102795	125pm	160	5	0		2.5	1.5
102895	525pm		Shut down			2	0
102995	1120AM	155	2.3	0		2	0
103095	135pm	140	2.3	0		2	1
103195	120pm	135	2	0		2	1
11195	130pm	135	2.3	0		2	1
11295	125pm	110	2.3	0		2	1
11395	115pm	125	2.3	0		2.2	1
11495	1010 AM	115	2.3	0		2.2	1
11595	1010pm		Shut down				
11695	125pm	150	2.3	0		2	1
11795	135pm	140	2.3	-0		2	1
11895	125pm	125	2.3	0		2.3	1
11995	125pm	145	2.3	0		2.3	1
111095	125pm	115	2.2	0		2.3	1
111195	910AM	100	2.3	-0		2	1
111295	1155 PM	120	2.3	0		2	1
111395	125pm	135	2.3	0		2	1
111495	125pm	135	2.3	0		2.3	1
111595	115pm	125	2.3	0		2.3	1
111695	115pm	140	2.3	0		2.3	1
111795	125pm	135	2.3	0		2.3	1
111895	1225pm	135	2.3	0		2.3	1
111995	100pm	145	2.3	0		2.3	1
112095			2.3				
112195							
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52-02

Safety Kleen/Wichita

Daily Monitoring Record - Air Sparging System

Date	Time	Temperature (°F)	Outlet Pressure (psi)	Flow Meter ΔP (in H ₂ O)	Pressure AS-3 (psi)	Pressure AS-2 (psi)	Pressure AS-1 (psi)
11/26/95	12:50 PM	145	2.4	0	N/A	2.3	1
11/26/95	12:50 PM	140	2.4	0		2.3	1
11/27/95	11:50 PM	145	2.4	0		2.3	1
11/28/95	9:55 AM	110	2.4	0		2.3	1
11/29/95	10:25 AM	115	2.3	0		2.3	1
11/29/95	10:55 AM	150	2.5	0		2.3	1
11/29/95	1:50 PM	150	2.4	0		2.3	1
11/29/95	12:00 PM	110	2.2	0		2	1
11/29/95	11:50 PM	115	2.2	0		2	1
11/29/95	11:50 PM	130	2.2	0		2	1
11/30/95	11:50 PM	150	2.3	0		2	1
12/01/95	11:50 PM	150	2.3	0		2	1
12/2/95	10:25 AM	135	2	0		2	1
12/3/95	4:25 PM	Shot down					
12/4/95	12:00 PM	135	2.3	0		2	1
12/5/95							
12/5/95	11:50 PM	120	2.3	0		2	1
12/6/95							
12/6/95	12:00 PM	130	2.3	0		2	1
12/7/95	12:00 PM	120	2.7	0		2	1
12/8/95	9:55 AM	120	2.2	0		2	1
12/9/95							
12/10/95							
12/11/95	11:50 PM	130	2.2	0		2	1
12/12/95	12:50 PM	120	2.2	0		2	1
12/13/95	12:50 PM	135	2.2	0		2	1
12/14/95	1:35 PM	140	2.2	0		2	1
12/15/95	11:50 PM	140	2.3	0		2	1
12/16/95	10:25 AM	120	2	0		2	1
12/17/95	12:25 PM	125	2	0		2	1
12/18/95	11:50 PM	110	2	0		2	1
12/19/95	12:00 PM	110	2.2	0		2	1
12/20/95	12:00 PM	115	2.2	0		2	1
12/21/95	12:00 PM	120	2	0		2	1
12/22/95							
12/23/95							

Shut down
Shot down

Beth

ATTACHMENT C

SUMMARY OF MONITORING RECORDS
OCTOBER - DECEMBER 1995
SOIL VAPOR EXTRACTION SYSTEM

CORRECTIVE ACTION
QUARTERLY PROGRESS REPORT OCTOBER - DECEMBER 1995
SAFETY-KLEEN CORP. SERVICE CENTER
WICHITA, KANSAS

Safety-Kleen Corp. Branch Service Center
Wichita, Kansas

SVES Field Measurements (Daily)

Page

Date	Time	Inlet Temp. (°F)	Inlet Vacuum (in-H ₂ O)	Δ Pressure (in-H ₂ O)	Effluent Pressure (psi)	Effluent Temp (°F)	Flow Calculation (cfm)	Stack Emissions w/ PID (ppm)	Remarks
6-24-95	10:15 AM	82	18	5	0	100			
6-25-95	11:55 AM	80	18	5	0	100			
6-26-95	12:5 PM	90	18	5	0	110			
6-27-95	12:5 PM	96	18	5	0	115			
6-28-95	1:30 PM	92	18	5	0	110			
6-29-95	1:35 PM	76	18	4	0	95			
6-30-95	1:40 PM	88	18	5	0	105			
7-1-95	11:05 AM	80	18	4	0	100			
7-2-95	3:20 PM	80	18	4	0	100			
7-3-95	4:05 PM	82	18	5	0	100			
7-4-95	11:25 AM	83	18	5	0	100			
7-5-95	12:5 PM	94	18	5	0	110			
7-6-95	11:4 AM	98	16	6	0	115			
7-7-95	12:0 PM	98	16	6	0	115			
7-8-95	11:50 AM	98	16	6	0	115			
7-9-95	1:55 PM	105	16	6	0	120			
7-10-95	12:5 PM	100	16	6	0	115			
7-11-95	12:0 PM	106	16	6	0	125			
7-12-95	4:05 PM	104	14	6	0	120			
7-13-95	4:15 PM	100	14	6	0	115			
7-14-95	3:35 PM	98	14	5	0	115			
7-15-95	3:40 PM	100	15	5	0	115			
7-16-95	1:40 PM								
7-17-95	12:5 PM								Shut Down
7-18-95	11:5 PM	98	14	6	0	115			re started system
7-19-95	12:5 PM	96	14	6	0	115			
7-20-95	11:5 PM	96	16	5	0	115			
7-21-95	12:5 PM	96	16	5	0	115			
7-22-95	9:15 AM	82	16	4	0	100			
7-23-95	11:5 AM	96	16	5	0	115			

* To be measured periodically by Trihydro Corporation personnel

Safety-Kleen Corp. Branch Service Center
Wichita, Kansas

SVES Field Measurements (Daily)

Page _____

Date	Time	Inlet Temp. (°F)	Inlet Vacuum (in-H ₂ O)	Δ Pressure (in-H ₂ O)	Effluent Pressure (psi)	Effluent Temp (°F)	Flow Calculations (cfm)	Stack # Emissions w/ PID (ppm)	Remarks
7-24-95	125pm	98	16	5	0	105			
7-25-95	225pm	97	16	5	0	115			
7-26-95	125pm	96	16	5	0	115			
7-27-95	115pm	104	16	5	0	120			
7-28-95	120pm	104	16	6	0	120			
7-29-95	1245pm	100	18	6	0	130			
7-20-95	123pm	95	18	6	0	120			
7-31-95	120pm	97	16	6	0	110			
8-1-95	115pm	76	16	4	0	95			
8-2-95	115pm	90	16	4	0	100			
8-3-95	130pm	78	16	4	0	100			
8-4-95	115pm	96	16	5	0	115			
8-5-95	125pm	80	16	4.5	0	100			
8-6-95	1235pm	92	16	5	0	110			
8-7-95	115pm	98	16	5	0	115			
8-8-95	120pm	100	16	5	0	120			
8-9-95	115pm	100	16	6	0	120			
8-10-95	125pm	100	16	6	0	120			
8-11-95	115pm	100	16	6	0	115			
8-12-95	115pm	90	16	4	0	100			
8-13-95	105pm	90	16	5	0	110			
8-14-95	125pm	102	16	6	0	120			
8-15-95	120pm								Shut down
8-16-95	125pm	98	16	5	0	115			
8-17-95	115pm	100	16	5	0	120			
8-18-95	120pm	105	16	5	0	120			
8-19-95	440pm	96	16	5	0	115			
8-20-95	150pm	104	16	5	0	120			
8-21-95	125pm	104	16	5	0	120			
8-22-95	125pm	102	16	5	0	120			
* 10 days measured periodically by T.H. Hydro Corporation personnel									
8-23-95	125pm	100	16	5	0	120			
8-24-95	120pm	104	16	6	0	120			
8-25-95	115pm	102	16	6	0	120			
8-26-95	115pm	100	16	5	0	120			
8-27-95	115pm	100	16	5	0	120			

Safety-Kleen Corp. Branch Service Center
Wichita, Kansas

SVES Field Measurements (Daily) Page _____

Date	Time	Inlet Temp. (°F)	Inlet Vacuum (in-H ₂ O)	Δ Pressure (in-H ₂ O)	Effluent Pressure (psi)	Effluent Temp (°F)	Flow (calculated) (cfm)	Stack # Emissions w/ PID (ppm)	Remarks
82895	125pm	106	16	6	0	120			
82995	115pm	103	15	6	0	120			
83095	120pm	104	15	6	0	120			
83195	115pm	106	15	6	0	125			
9-1-95	125pm	100	15	6	0	118			
9-2-95	615pm	94	15	5	0	113			
9-3-95	1225pm	102	15	6	0	120			
9-4-95	125pm	105	15	6	0	125			
9595	120pm	98	15	6	0	115			
9695	125pm	92	15	5	0	110			
9895	125pm	87	15	5	0	109			
9895	124pm	75	15	4.5	0	95			
9995	440pm	80	16	5	0	100			
91095	550pm	80	15	5	0	100			
91195	125pm	80	15	5	0	100			
91295	45pm	96	15	6	0	115			
91395	115pm	98	15	6	0	120			
91495	120pm	96	15	6	0	115			
91595	115pm	86	15	5	0	105			
91695	950am	76	15	5	0	95			
91795	200pm	94	15	6	0	115			
91895	125pm	80	15	5	0	100			
91995	115pm	74	15	4	0	95			
92095	120pm	70	15	4.5	0	90			
92195	120pm	60	15	4	0	80			
92295	125pm	76	15	5	0	95			
92395	440pm	Shut down							
92495	235pm	Restarted							
92595									

* To be measured periodically by TriHydro Corporation personnel

Safety-Kleen Corp. Branch Service Center
Wichita, KansasSVES Field Measurements (Daily) Page

Date	Time	Inlet Temp. (°F)	Inlet Vacuum (in-H ₂ O)	Δ Pressure (in-H ₂ O)	Effluent Pressure (psi)	Effluent Temp. (°F)	Flow Calculation (cfm)	Stack Emissions w/ P10 (ppm)	Remarks
92595	125pm	84	14	6	0	100			
92695	125pm	85	14	6	0	105			
92795	125pm	73	14	5	0	90			
92895	120pm	82	14	5	0	100			
92995	120pm	84	14	5	0	105			
93095									Shut Down
10195									Shut Down
10295	130pm	68	16	4	0	90			
10395	130pm	86	16	5	0	105			
10495	120pm	80	15	5	0	100			
10595	130pm	68	16	4	0	90			
10695	815pm	60	16	4	0	80			
10795	1135pm	72	16	4	0	80			
10895	925pm	65	16	4	0	80			
10995	115pm	82	16	6	0	102			
101095	115pm	90	16	7	0	110			
101195	125pm	90	16	6	0	110			
101295	125pm	88	15	6	0	110			
101395	120pm	88	15	5	0	100			
101495	910Am	64	15	4	0	85			
101595	130pm	88	15	6	0	110			
101695	125pm	90	15	6	0	110			
101795	120pm	84	15	6	0	105			
101895	125pm	84	15	6	0	105			
101995	125pm	80	16	5	0	100			
102095	1025Am	70	16	5	0	90			
102195	115pm	74	16	5	0	95			
102295	120pm	80	16	5	0	100			

* To be measured periodically by TriHydro Corporation personnel

Safety-Kleen Corp. Branch Service Center
Wichita, KansasSVES Field Measurements (Daily) Page

Date	Time	Inlet Temp. (°F)	Inlet Vacuum (in-H ₂ O)	Δ Pressure (in-H ₂ O)	Effluent Pressure (psi)	Effluent Temp (°F)	Flow Calculation (cfm)	Stack Emissions w/ PID (ppm)	Remarks
10-23-95	1:30 PM	64	15	4	0	85			
10-24-95	12:50 PM	76	16	5.5	0	95			
10-25-95	12:30 PM	78	15	5.5	0	100			
10-26-95	12:50 PM	66	15	4	0	85			
10-27-95	12:50 PM	76	15	5	0	95			
10-28-95	5:25 PM	68	16	5	0	86			
10-29-95	11:20 AM	72	15	5	0	90			
10-30-95	1:35 PM	64	15	4	0	85			
10-31-95	12:00 PM	60	15	4	0	80			
11-1-95	1:30 PM	64	15	4	0	85			
11-2-95	12:50 PM	52	15	4	0	75			
11-3-95	11:50 PM	62	15	5	0	80			
11-4-95	10:10 AM	58	15	4	0	78			
11-5-95	6:10 PM	60	15	4.5	0	80			
11-6-95	12:50 PM	72	15	5	0	90			
11-7-95	1:50 PM	70	15	5	0	80			
11-8-95	12:50 PM	60	15	5	0	80			
11-9-95	12:50 PM	70	15	5	0	90			
11-10-95	12:50 PM	52	15	3	0	70			
11-11-95	9:10 PM	48	15	4	0	70			
11-12-95	11:55 PM	52	15	4	0	70			
11-13-95	12:50 PM	64	14	3.5	0	80			
11-14-95	12:50 PM	64	14	3.5	0	80			
11-15-95	11:50 PM	54	14	4	0	75			
11-16-95	11:50 PM	66	14	4	0	85			
11-17-95	12:50 PM	70	14	4	0	85			
11-18-95	12:25 PM	68	14	4	0	85			
11-19-95	1:00 PM	74	14	4	0	90			

11-20-95

* To be measured periodically by TriHydro Corporation personnel

11-21-95

11-22-95

Safety-Kleen Corp. Branch Service Center
Wichita, Kansas

SVES Field Measurements (Daily) Page

Date	Time	Inlet Temp. (°F)	Inlet Vacuum (in-H ₂ O)	Δ Pressure (in-H ₂ O)	Effluent Pressure (psi)	Effluent Temp. (°F)	Flow Calculations (cfm)	Stack Emissions w/ PID (ppm)	Remarks
11/30/95	125pm	75	14	4	0	92			
11/30/95	125pm	70	14	4	0	85			
11/30/95	115pm	62	15	4.5	0	85			
11/25/95	955am	50	15	4	0	70			
11/24/95	1025am	46	14	4	0	65			
11/25/95	1055am	70	14	4	0	80			
11/26/95	135pm	60	14	4	0	80			
11/27/95	120pm	50	14	3	0	70			
11/28/95	115pm	54	14	3	0	75			
11/29/95	115pm		Shut down & re-started						
11/30/95	115pm	70	16	3	0	80			
12/1/95	115pm	74	13	4	0	90			
12/2/95	1025am	54	14	4	0	75			
12/3/95	425pm	62	14	5	0	80			
12/4/95	120pm	54	14	5	0	75			
12/5/95	115pm	64	13	4	0	80			
12/6/95	120pm	58	14	5	0	80			
12/7/95	120pm	47	14	4	0	70			
12/8/95	955am	44	14	4	0	65			
12/9/95	625pm	40	15	1	0	50			
12/10/95	515pm	40	14	1	0	50			
12/11/95	115pm	54	14	5	0	75			
12/12/95	125pm	44	14	4	0	65			
12/13/95	125pm	50	14	4	0	70			
12/14/95	125pm	68	12	3.5	0	85			
12/15/95	115pm	66	12	3	0	80			
12/16/95	1025am	44	14	4	0	65			
12/17/95	1225pm	46	14	4	0	70			
12/18/95	115pm	42	14	3	0	65			
12/19/95	125pm	42	14	+50	0	60			
* To be measured periodically by TechHydro Corporation personnel									
12/20/95	120pm	40	14	18	0	60			
12/21/95	120pm	40	16	+50	0	50			
12/22/95									
12/23/95									